

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently amended) A touch sensitive display comprising:

an active matrix display element having a viewer proximal side and a viewer distal side and comprising a pixel array with rows and columns of pixels; and

a touch sensitive element disposed on the viewer distal side of the active matrix display element, wherein the touch sensitive element comprises:

a first conductive layer comprising a first plurality of conductors;

a second conductive layer comprising a second plurality of conductors; and

a pressure sensitive layer sandwiched between the first conductive layer and the second conductive layer and operable to modify an electrical conductivity between a first conductor of the first plurality of conductors and a second conductor of the second plurality of conductors in response to a pressure point resulting from an applied pressure, characterized in that:

the first ~~plurality~~ plurality of conductors are row conductors of the touch sensitive element and the second plurality of conductors are column conductors of the touch sensitive element,

each row of pixels shares a respective row buffer amplifier with a touch sensitive element row conductor, and

each column of pixels shares a respective column buffer amplifier with a touch sensitive element column conductor; and

wherein the respective row buffer amplifier and column buffer amplifier synchronously operate under a time-division multiplexed control to carry out mutually exclusive functions of touch sensing and pixel value setting.

2. (Previously presented) A touch sensitive display as claimed in claim 1 wherein the touch sensitive element comprises a plurality of pressure sensitive elements.

3. (Canceled)

4. (Previously presented) A touch sensitive display as claimed in claim 2 wherein the plurality of pressure sensitive elements is aligned with pixels of the active matrix display element.

5. (Canceled)

6. (Canceled)

7. (Previously presented) A touch sensitive display as claimed in claim 1 wherein the pressure sensitive layer comprises a piezoelectric material operable to modify the electrical conductivity.

8. (Previously presented) A touch sensitive display as claimed in claim 1 wherein the pressure sensitive layer comprises Micro-ElectroMechanical (MEM) switches operable to modify the electrical conductivity.

9. (Previously presented) A touch sensitive display as claimed in claim 1, further comprising detection means operable to determine a position of the pressure point in response to the change in electrical conductivity between the first conductor and the second conductor.

10. (Original) A touch sensitive display as claimed in claim 9 wherein the detection means is operable to detect a plurality of simultaneous pressure points.

11. (Currently amended) A touch sensitive display as claimed in claim 10 wherein the detection means comprise:

a signal source for outputting an electrical signal; and

a sense amplifier for sensing an electrical signal;

wherein the detection means includes a circuit comprising: the signal source, the sense amplifier, the pressure sensitive layer at the pressure point, and on the first conductor and a sense amplifier coupled to the second conductor coupled to one of either the signal source or sense amplifier; and

wherein the circuit of the detection means is arranged to enable the sense amplifier to detect for detecting an electrical signal caused by an electrical conductivity being formed between the first conductor and the second conductor in response to the pressure point.

12. (Previously presented) A touch sensitive display as claimed in claim 11 wherein the electrical signal is an electrical charge and the sense amplifier is a charge sensitive amplifier.

13. (Previously presented) A touch sensitive display as claimed in claim 11 further comprising a display controller, wherein the display controller uses the row buffer amplifier to provide a display control signal in a display driver configuration, and wherein the touch sensitive display is further operable to use the row buffer amplifier as a signal source in a pressure point detection configuration.

14. (Previously presented) A touch sensitive display as claimed in claim 11 further comprising a display controller, wherein the display controller uses the column buffer amplifier to provide a display control signal in a display driver configuration, and wherein the touch sensitive display is further operable to use the column buffer amplifier as the sense amplifier in a pressure point detection configuration.

15. (Original) A portable device comprising a touch sensitive display as claimed in claim 1.

16. (New) The touch sensitive display of claim 1 wherein the time-division multiplexed control is carried out via differential switches.

17. (New) The touch sensitive display of claim 1 wherein the time-division multiplexed control is carried out via three differential switches controlled by a configuration signal.

18. (New) The touch sensitive display of claim 1 wherein the time-division multiplexed control is carried out via a set of differential switches comprising:

a row differential switch coupling the row buffer amplifier to the row electrode,

a column differential switch coupling the row buffer amplifier to the column electrode,

and

an input differential switch coupling the column buffer amplifier to a signal corresponding to a desired pixel grey level.

19. (New) A touch sensitive display as claimed in claim 1 wherein at least one of the respective row buffer amplifier and column buffer amplifier operates as a touch sensor signal receiver.

20. (New) A touch sensitive display as claimed in claim 11 wherein the row buffer amplifier is the signal source and the column buffer amplifier is the sense amplifier.

21. (New) A touch sensitive display comprising:

- an active matrix display element having a viewer proximal side and a viewer distal side and comprising a pixel array with rows and columns of pixels; and

- a touch sensitive element disposed on the viewer distal side of the active matrix display element, wherein the touch sensitive element comprises:

- a first conductive layer comprising a first plurality of conductors;

- a second conductive layer comprising a second plurality of conductors; and

- a pressure sensitive layer sandwiched between the first conductive layer and the second conductive layer and operable to modify an electrical conductivity between a first conductor of the first plurality of conductors and a second conductor of the second plurality of conductors in response to a pressure point resulting from an applied pressure, characterized in that:

- the first plurality of conductors are row conductors of the touch sensitive element and the second plurality of conductors are column conductors of the touch sensitive element,

- each row of pixels shares a respective row buffer amplifier with a touch sensitive element row conductor, and

- each column of pixels shares a respective column buffer amplifier with a touch sensitive element column conductor; and

- wherein at least one of the respective row buffer amplifier and column buffer amplifier operates as a touch sensor signal receiver.